



Dollars for (Clean) Diesel

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KY Division for Air Quality



DAQ's Mission Statement

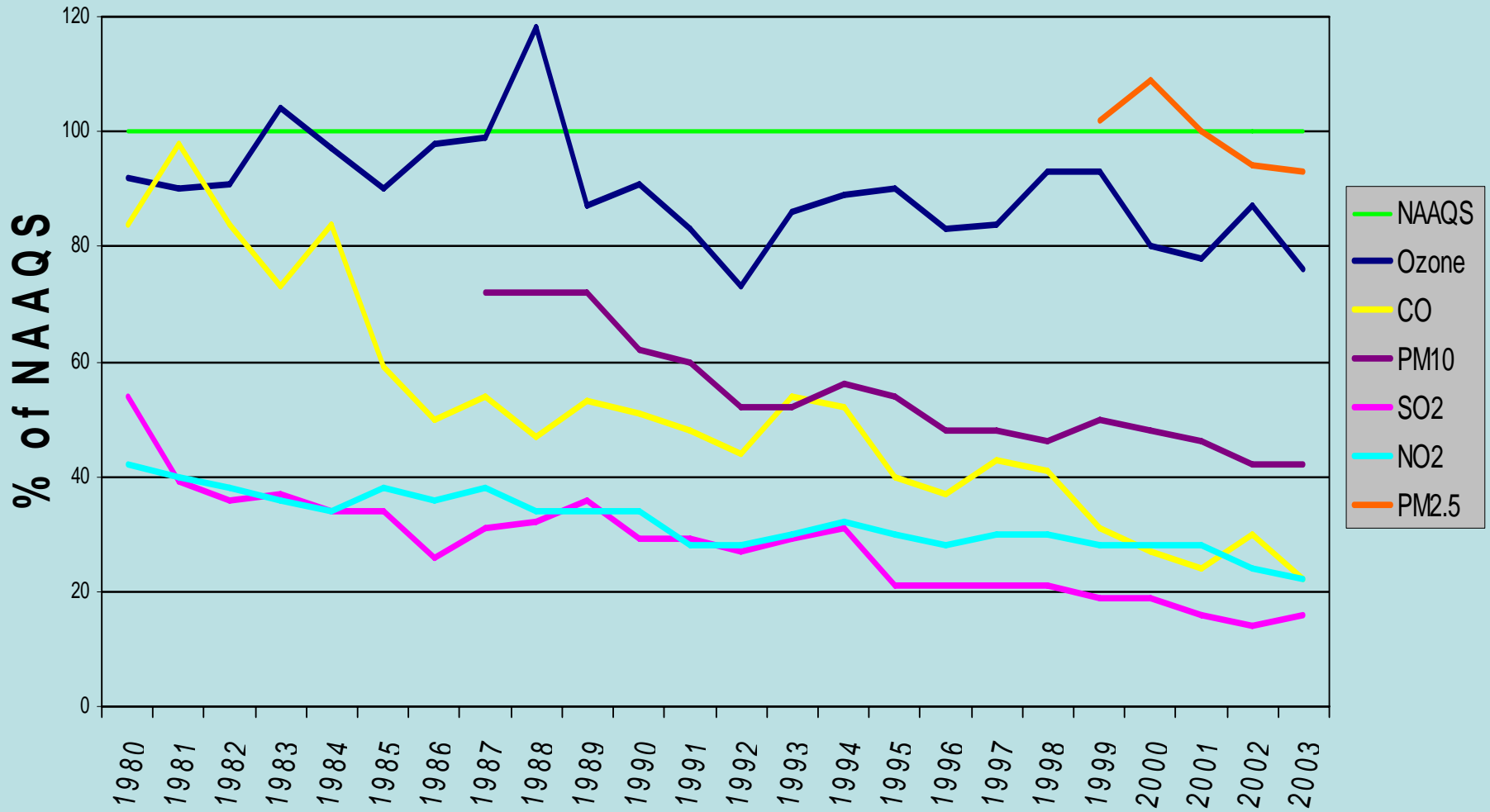
To protect human health and the environment by achieving and maintaining acceptable air quality



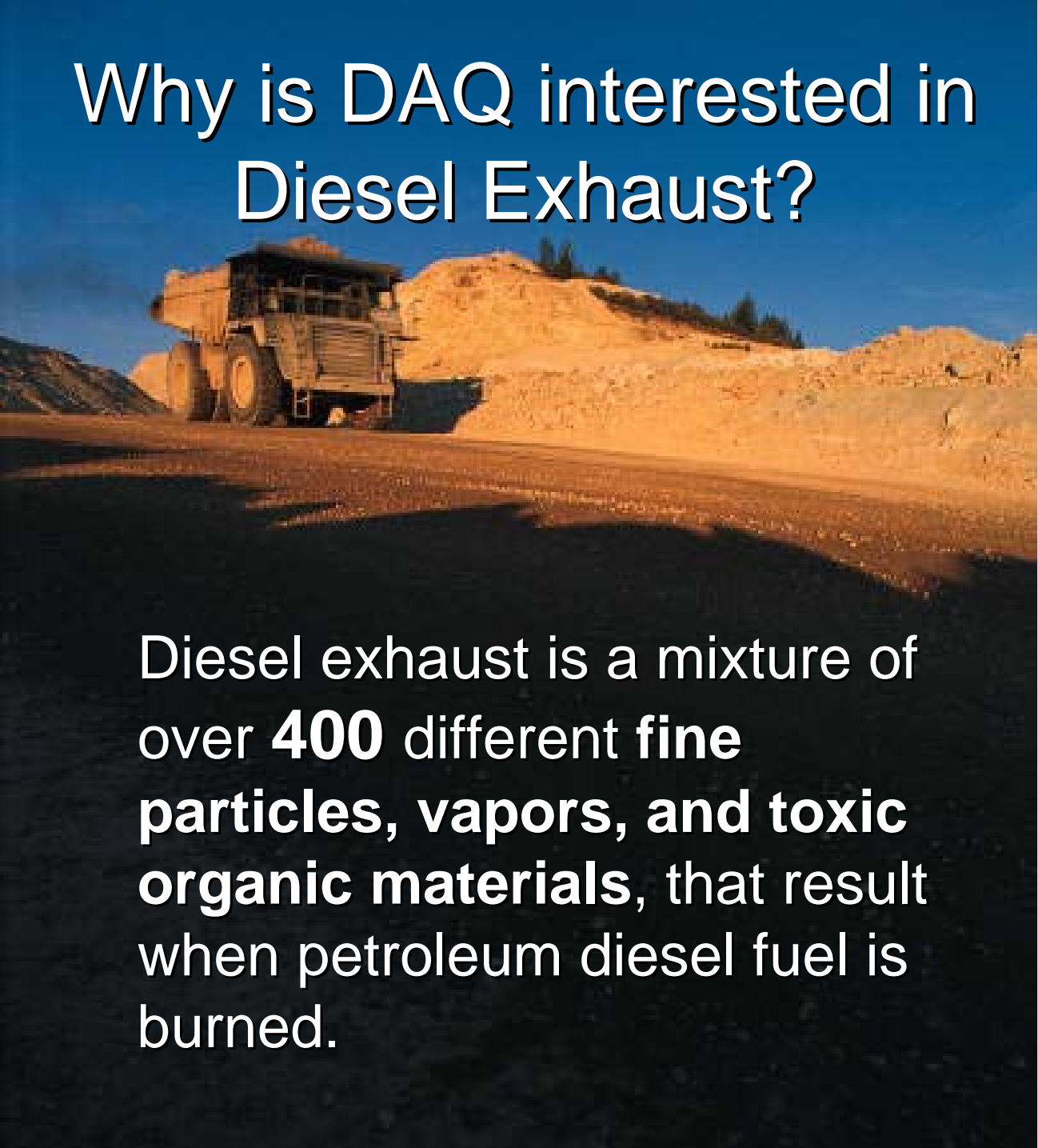
How do we quantify these goals?

- National Ambient Air Quality Standards (NAAQS)
- Six Criteria Pollutants regulated by EPA:
 - ❖ Particulate Matter (PM)
 - ❖ Nitrogen Oxides (NO_x)
 - ❖ Sulfur Dioxide (SO₂)
 - ❖ Ozone (O₃)
 - ❖ Carbon Monoxide (CO)
 - ❖ Lead (Pb)

Air Quality Trends



Why is DAQ interested in Diesel Exhaust?

A large yellow mining truck is driving on a dirt road in a quarry, kicking up a cloud of dust. The truck is positioned in the upper left of the frame, moving towards the right. The background shows a steep, light-colored rock face under a clear blue sky. The foreground is a dark, shadowed area, possibly a pool of water or a wet surface, reflecting the truck and the dust.

Diesel exhaust is a mixture of over **400** different **fine particles, vapors, and toxic organic materials**, that result when petroleum diesel fuel is burned.

Criteria Pollutants

All of the Criteria Pollutants can be found in diesel exhaust!

- Particulate Matter
 - small airborne particles comprised of a mixture of nitrogen oxides, sulfur oxides, metals, dust, and toxic chemicals
- Nitrogen Oxides
 - NO_x → Ozone
- Sulfur Dioxide
- Carbon Monoxide
- Lead

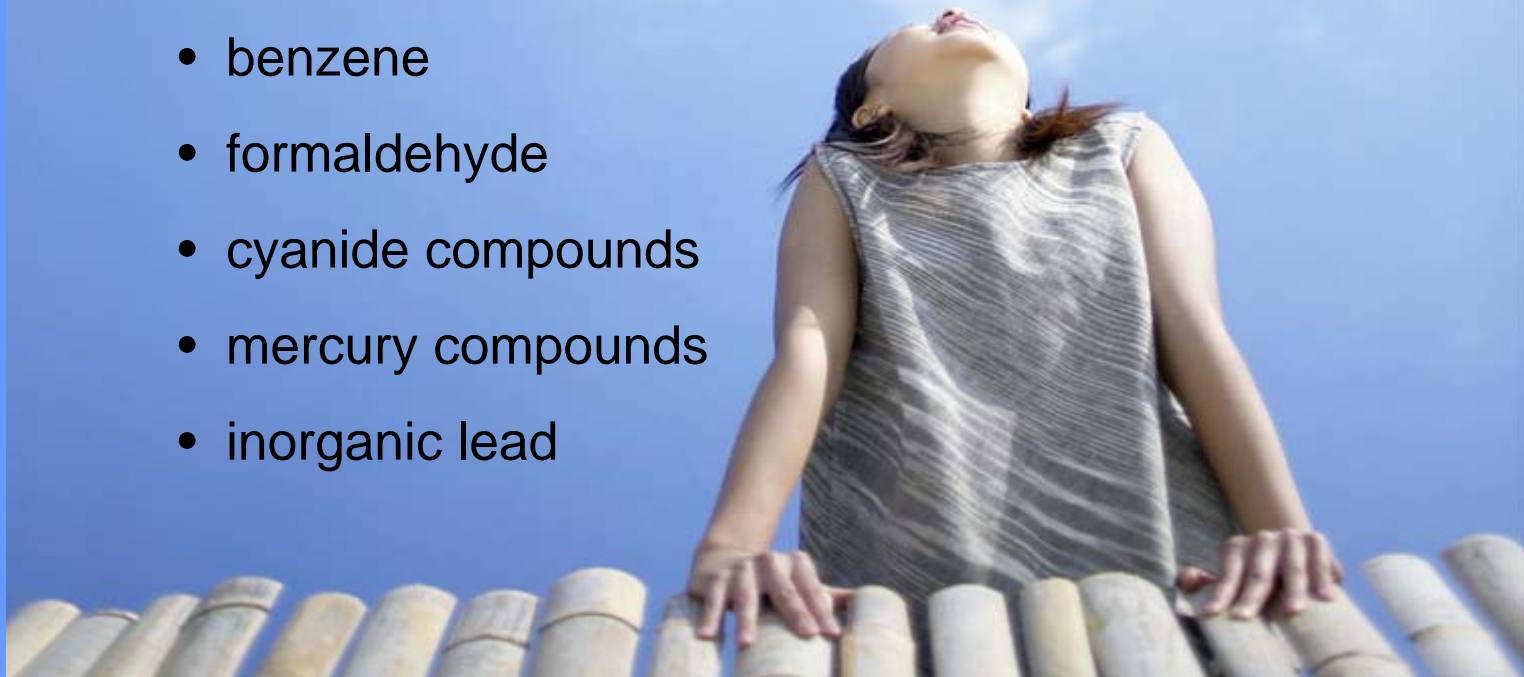


Hazardous Air Pollutants

Pollutants that are known or suspected to cause cancer or other serious health effects

– Over 40 substances emitted from diesel fuel are listed by the U.S. EPA as Hazardous Air Pollutants, including:

- arsenic
- benzene
- formaldehyde
- cyanide compounds
- mercury compounds
- inorganic lead



According to EPA's National-Scale Assessment of Air Toxics...

The cancer risks from diesel emissions are about ten times higher than the cancer risks from all other hazardous air pollutants combined.

Who is most at risk?

- Children
- The elderly
- People with existing heart and lung conditions
- Those performing strenuous activities
- Those who work near sources of diesel exhaust



What is EPA Doing to Address On-Road Diesel Emissions?

- **New On-road Fuel Requirements:**
 - **Ultra Low Sulfur Diesel (15ppm) available/optional in October, 2006**
 - **Low Sulfur Diesel (500 PPM) current standard**
 - **All on-road diesel sold must be 100% ULSD by January of 2010**
- **New On-road Engine Standards**
 - **Clean technologies to be phased in from 2007 to 2010**
 - **All new heavy duty engines sold must be in compliance with new standards by December 2010**

Public Health Benefits



- By 2030, EPA estimates that controlling these emissions will prevent 12,000 premature deaths, 8,900 hospitalizations, and one million work days lost. The overall benefits (\$80 billion annually) of this rule outweigh the costs by a ratio of 40 to 1.

BUT!

- These new emission standards affect NEW engines only
- The average lifetime of heavy-duty engines/equipment is 25-30 years
- Voluntary actions are ESSENTIAL to the effort of cleaning up emissions from heavy duty fleets, and protecting employee and general public health

National Clean Diesel Program

\$49.2 Million for 2008

National

\$34.4 Million (70%)



National Clean Diesel
Funding Assistance Program \$27.6 M

Clean Diesel Emerging Technologies Program \$3.4 M

National Clean Diesel Finance Program \$3.4 M

State

\$14.8 Million (30%)



State Clean Diesel Grant Program \$14.8 M

State Base

Matching Bonus

Southeast Diesel Collaborative

Sector Programs

- Agriculture
- Construction
- On-Road (Idle reduction, Clean School Bus USA, Smart-Way Transport Partnership)
- Emerging Sectors (including Ports, Shipping, and Rail)

www.southeastdiesel.org





The 6 R's of Clean Diesel Initiatives

- Retrofit
- Refuel
- Repower
- Rebuild
- Replace
- Reduce Idling

National Clean Diesel Campaign

\$49.2 Million for 2008

National Component

\$34.4 Million
(70%)



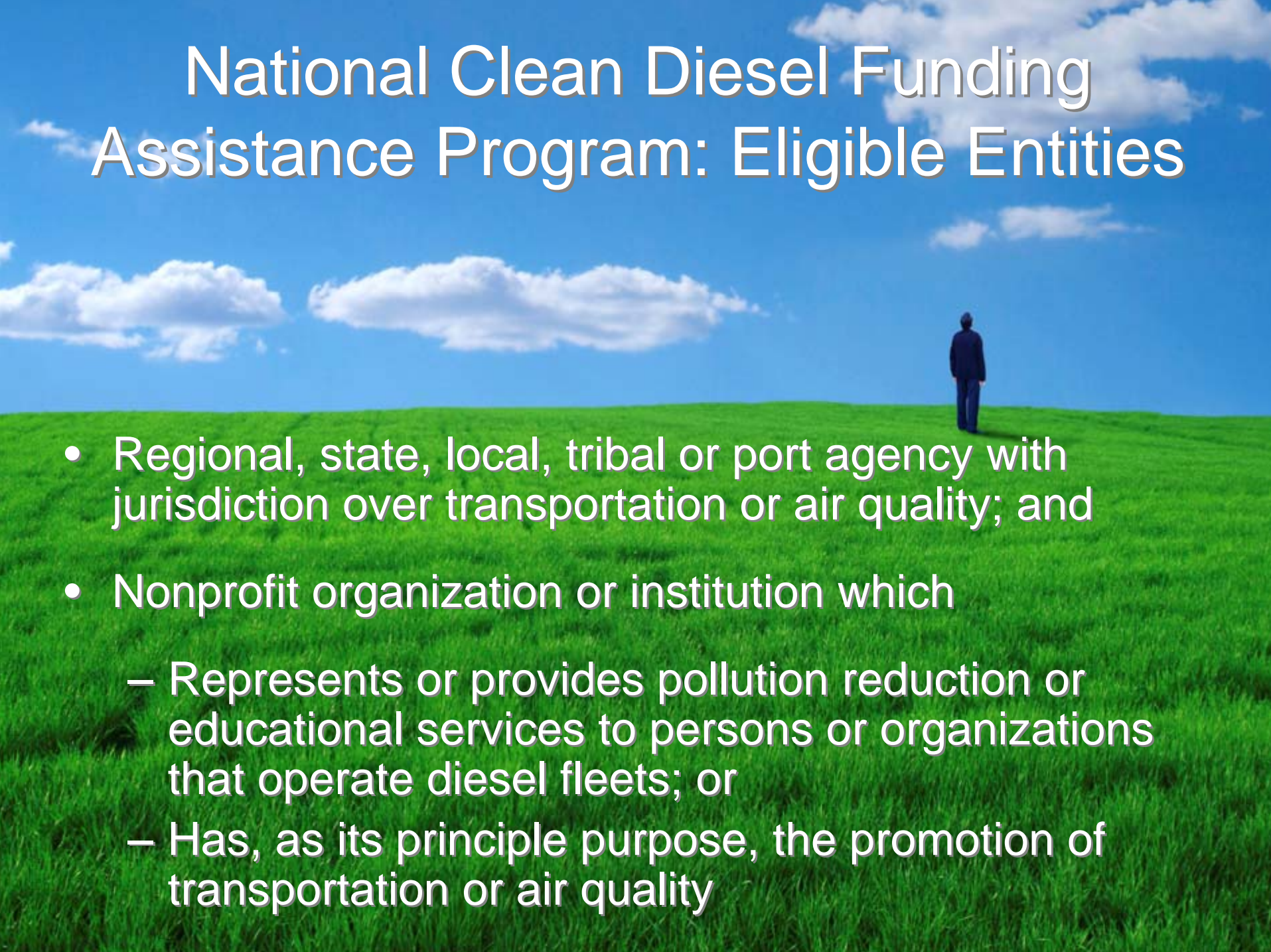
National Clean Diesel Funding Assistance Program
\$27.6 M

National Clean Diesel Finance Program ~\$3.4 M

Clean Diesel Emerging Technologies Program
~\$3.4 M

Competitive grant
process managed
through EPA
regions

National Clean Diesel Funding Assistance Program: Eligible Entities

- 
- A person in a dark suit stands on a vibrant green grassy hill, looking out over a vast landscape under a bright blue sky with scattered white clouds. The scene is peaceful and expansive, symbolizing the reach and impact of the program.
- Regional, state, local, tribal or port agency with jurisdiction over transportation or air quality; and
 - Nonprofit organization or institution which
 - Represents or provides pollution reduction or educational services to persons or organizations that operate diesel fleets; or
 - Has, as its principle purpose, the promotion of transportation or air quality

National Clean Diesel Funding Assistance Program: Use of Funds

At least 50% of funding is dedicated for the benefit of public fleets. This will include private fleets contracted or leased for public purpose, such as private school buses or refuse haulers

- Only eligible entities can apply directly for funds (i.e., school district applies on behalf of private school bus contractor)
- Cannot fund the cost of emissions reductions mandated under Federal, State or Local law
- Grants are not for emissions testing



National Clean Diesel Funding Assistance Program: Use of Funds

- Technologies and engines must be verified and/or certified by USEPA or CARB
www.epa.gov/cleandiesel (select *Verified Technology List*)
- Incremental cost of engine replacement (sent to be remanufactured or scrapped), engine repower, engine rebuild

National Clean Diesel Funding Assistance Program: Use of Funds

- Idle Reduction Technologies (EPA approved)
 - Electrified Parking Spaces (truck stop electrification)
 - Auxiliary Power Units and Generator Sets
 - Fuel Operated Heaters
 - Battery Heating and Air Conditioning Systems
 - Thermal Storage Systems

www.epa.gov/cleandiesel
select *Idle Reduction*

National Clean Diesel Funding Assistance Program: Eligible Fleets and Equipment

- Buses
- Medium or heavy duty trucks
- Marine engines
- Locomotives



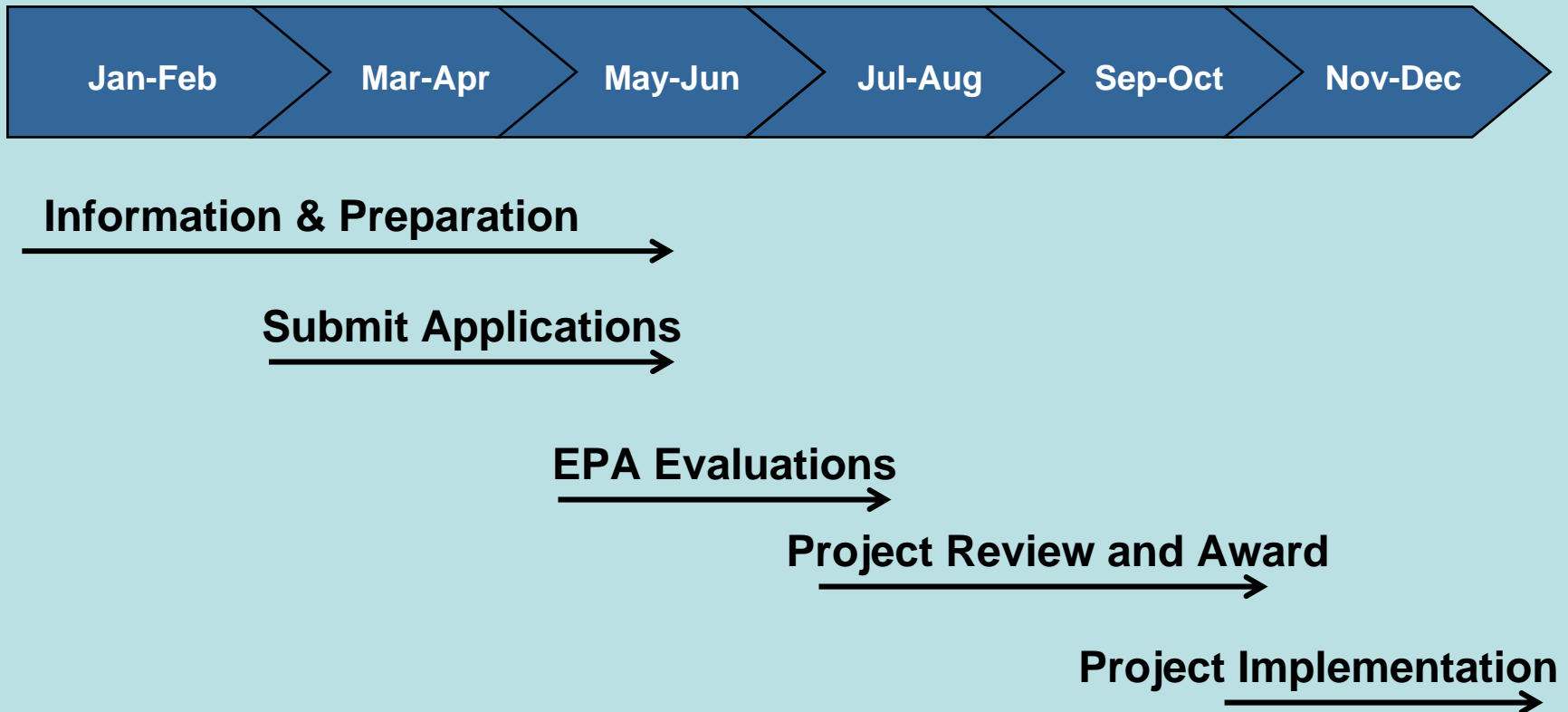
- Non-road engine, stationary engine or vehicle used for:
 - Construction
 - Handling of cargo (including at a port or airport)
 - Agriculture
 - Mining
 - Energy production

National Clean Diesel Funding Assistance Program: Priority Projects

Project proposals that align with these priorities will receive higher scores in the evaluation process:

- Maximize public health benefits
- Are the most cost-effective
- Are in areas with high population, air quality issues, and air toxic concerns
- Are in areas that receive a disproportionate quantity of air pollution (i.e. truck stops, ports)
- Maximize the useful life of the engine
- Conserve diesel fuel and utilize ULSD (early introduction of ULSD for nonroad projects)

National Clean Diesel Funding Assistance Program: FY08 Timeline



National Clean Diesel Campaign

\$49.2 Million for 2008

National Component

\$34.4 Million
(70%)



National Clean Diesel Funding Assistance Program
\$27.6 M

National Clean Diesel Finance Program ~\$3.4 M

Clean Diesel Emerging Technologies Program
~\$3.4 M

**Competitive grant
program to
establish
innovative finance
mechanisms**

National Clean Diesel Finance Program: Overview

- Distinct program that seeks national low-cost revolving loans
 - EPA will issue grants to eligible entities to establish loans for fleets anywhere in the U.S.
 - As part of the National Clean Diesel Funding Assistance Program, eligible entities can submit proposals to establish loan programs within a state or region.
- Everything else is the same
 - Same eligible entities
 - Same eligible vehicles & equipment
 - Same priority projects

National Clean Diesel Finance Program: Use of Funds

- Finance Program grants are used to establish loans. The loans must
 - Lower costs to the buyer (e.g., lower interest rate, closing costs, etc); and
 - Any program income generated must be used to further the project's goals which must align with the national clean diesel program goals (e.g., more loans for cleaner vehicles)

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National Clean Diesel Funding Assistance Program
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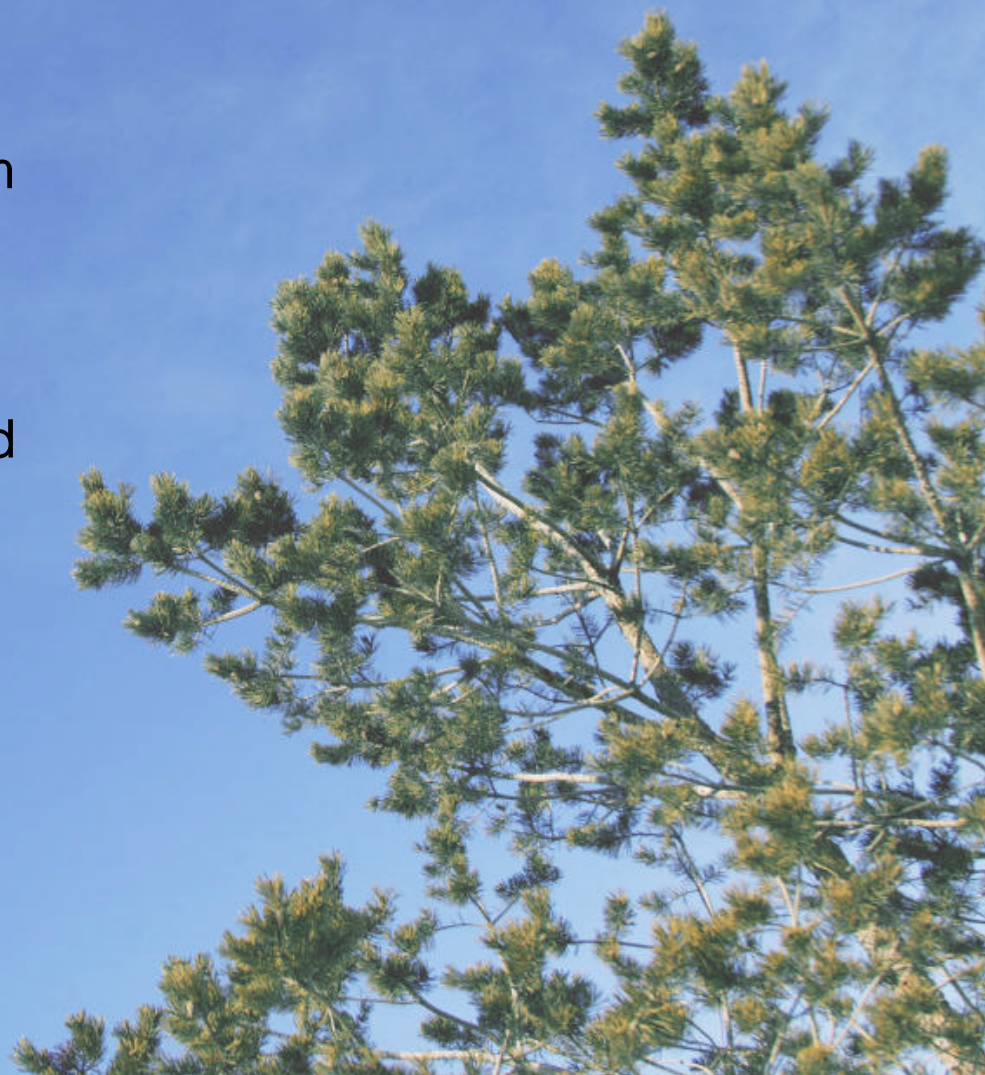
Clean Diesel Emerging Technologies Program
~\$3.4 M

**Competitive grant
program to deploy
emerging
technologies not
yet verified**

Clean Diesel Emerging Technologies Program: Overview

~\$3.4 million in FY08

- Separate grant competition from the national funding assistance program
- Program is for projects that will use technologies not yet verified and/or commercialized but on EPA's emerging technology list
- Program does not pay for research and development
- Only eligible entities can apply



Clean Diesel Emerging Technologies Program: Manufacturers

- Manufacturers should partner with an eligible entity
- Manufacturers must be on EPA's emerging technologies list prior to grant submission
 - To get on this list, manufacturers must work with EPA to apply for verification and develop a test plan for evaluating their technology

www.epa.gov/cleandiesel
select *Emerging Technologies*

SEDC Grant Application Workshop

- Thursday, March 6; 9:00 am to 4:00 pm
- Sam Nunn Atlanta Federal Center, Atlanta
- *Free !*
- Register at www.southeastdiesel.org



Questions?

A woman with short brown hair, wearing a pink top, is holding a large globe of the Earth. The globe shows the Americas and parts of Europe and Africa. The background is a bright blue sky with soft white clouds. The woman's face is slightly out of focus, looking directly at the camera.

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